Applic. No. 09/814,488
Amdt. dated June 23, 2005
Reply to Office action of March 23, 2005

Remarks:

Claims 1-14 remain in the application.

In the third paragraph on page 2 of the above-identified Office action, claims 1 and 4-12 have been rejected as being fully anticipated by Schmelz (U.S. Patent No. 5,628,186) under 35 U.S.C. § 102.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

It is noted that the corporate assignee of the Schmelz reference is also the assignee of the instant application. Therefore, applicant is very familiar with the Schmelz reference.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claims 1 and 6 call for, *inter alia*:

the monitoring unit having an interface to be connected to an external measuring or control unit.

The present invention solves the problem that due to the ageing phenomena of the combustion system, the functional relationship has to be adapted. If an adaptation is not made, the reagent can be overdosed and released to the environment or insufficient reagent can cause an insufficient conversion of the pollutant. Furthermore, sensors for measuring pollutant for a comparison with calculated predicted values are not capable of measuring the emitted quantity of pollutant during rapidly changing operating conditions of an engine.

The instant application discloses providing a monitoring unit with an interface that can be connected to an external measuring or control unit. The interface allows at least one of the functional relationships and the values for the operationally relevant parameters to be transmitted, checked, and if appropriate, for correction of the functional relationship with the external measuring or control unit. During standard operating conditions the external measuring or control unit is able to measure the quantity of emitted pollutant and compares the measured quantity with the predicted one.

The Schmelz reference discloses a control unit (38). The control unit (38) of Schmelz corresponds to the monitoring unit of the instant application. Both units are connected to a metering device for introducing reagent into the exhaust gas. Both units are used for calculating a quantity of a pollutant from operationally relevant parameters of the combustion system using a functional relationship. Schmelz discloses that the control unit (38) has inputs (E_1-E_4), which are used for detecting operationally relevant parameters. Using the input (E_1) the control unit (38) detects the operationally relevant parameters of the combustion system with a number of sensors at measurement location (5) on the diesel engine (4) (Fig. 1 and column 7, lines 5-16). The detected operationally relevant parameters are the basis for calculating the emitted quantity of pollutant and therefore, are absolutely a necessary part of the exhaust-gas cleaning system. The measurement location (5) and the sensors are an **internal part** of the exhaust-gas cleaning system.

Based on the above-given comments, it is seen that column 7, lines 53-65, cited by the Examiner do not disclose an external measuring or control unit. Instead, this passage discloses the **internal** measurement location (5) needed for the cleaning process.

As seen from the above given comments, the reference does not show the monitoring unit having an interface to be connected to an external measuring or control unit, as recited in claims 1 and 6 of the instant application.

Claims 1 and 6 also call for, *inter alia*:

the external measuring or control unit, for checking and, if appropriate, correcting the functional relationship with the external measuring or control unit.

The Schmelz reference does not disclose the external measuring or control unit, for checking and, if appropriate, correcting the functional relationship with the external measuring or control unit.

The relevant passages of Schmelz that are cited by the Examiner disclose adding to the calculated quantity using operationally relevant parameters, an amount based on specific features of the catalytic converter (i.e. a "catalytic amount"). The features are the adsorption or desorption of pollutant at the catalytic converter (column 3, lines 8-25 and column 4, lines 1-15), the catalytic activity (column 4, lines 26-40), and an ageing of the catalytic converter (column 4, lines 48-67). Schmelz discloses that the parameters of the

combustion engine collected at the measurement location (5) are not used to calculate the "catalytic amount" of the pollutant. More specifically, an increase in the load of the engine increases the exhaust gas temperature, which is then used to calculate the "catalytic amount" as a function of the temperature (column 4, lines 1-15).

Based on the above given comments, the reference does not show the external measuring or control unit, for checking and, if appropriate, correcting the functional relationship with the external measuring or control unit, as recited in claims 1 and 6 of the instant application. The Schmelz reference discloses a measurement location. The measurement unit is not an external measuring or control unit that corrects a functional relationship. This is contrary to the invention of the instant application as claimed, which recites the external measuring or control unit, for checking and, if appropriate, correcting the functional relationship with the external measuring or control unit.

Furthermore, the following further remarks pertain to claim 6. The Schmelz reference does not disclose that the correcting of the functional relationship with the external measuring or control unit is done in conjunction with maintenance work on

the combustion system, as recited in claim 6 of the instant application.

Since claims 1 and 6 are believed to be allowable over Schmelz, dependent claims 4, 5, and 7-12 are believed to be allowable over Schmelz as well.

In the penultimate paragraph on page 3 of the Office action, claims 2 and 3 have been rejected as being obvious over Schmelz (U.S. Patent No. 5,628,186) under 35 U.S.C. § 103. Since claim 1 is believed to be allowable, dependent claims 2 and 3 are believed to be allowable as well.

In the first paragraph on page 4 of the Office action, claims 13 and 14 have been rejected as being obvious over Schmelz (U.S. Patent No. 5,628,186) in view of Sawada (U.S. Patent No. 5,983,629) under 35 U.S.C. § 103. Sawada does not make up for the deficiencies of Schmelz. Since claim 6 is believed to be allowable, dependent claims 12 and 14 are believed to be allowable as well.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 6. Claims 1 and 6 are, therefore, believed to be patentable over the art and

since all of the dependent claims are ultimately dependent on claims 1 or 6, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-14 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner & Greenberg P.A., No. 12-1099.

Respectfully submitted,

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For Applicant(s)

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